

POSKACHEY, A.A.; URAL'SKIY, M.P.

Measuring the surface temperature of articles made from
aluminum and magnesium alloys by partial radiation pyrometers.
Zav. lab. 31 no.11:1412-1413 '65. (MIRA 19:1)

POSKACHEY, A.A., inzh.; URAL'SKIY, M.P., inzh.

Pyrometer of spectral ratio with a 300-500⁰ centigrade range.
Priborostroenie no.4:9-11 Ap '65. (MIRA 18:5)

ACCESSION NR: AP4021564

S/0136/64/000/003/0075/0077

AUTHOR: Poskachey, A. A.; Ural'skiy, M. P.

TITLE: Temperature Control During the Press forming of Aluminum and Magnesium Alloy Articles

SOURCE: Tsvetny*ye metally*, no. 3, 1964, 75-77

TOPIC TAGS: aluminum, magnesium, temperature control, induction heating, time relay, power relay, press forming, radiation pyrometer, optical pyrometer

ABSTRACT: In view of the fact that a strictly limited temperature range (300-600C) is called for in press forming Al and Mg alloy articles with the help of induction heating, the authors investigated a number of temperature measuring devices. Power and time relays were found unsuitable, serving only as a protection against overheating. On the other hand, the tested radiation pyrometers were excessively affected by surface conditions. Industrial tests of an optical pyrometer showed a maximum error of 10C. Therefore, the authors conclude

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that this type of measuring device would make the temperature control and regulation possible during press forming. The orig. art. has: 1 figure and 1 table

ASSOCIATION: None

SUBMITTED: 00

DATE ACQ: 08Apr64

ENCL: 00

SUB CODE: MM

NO REF SOV: 011

OTHER: 000

Card 2/2

L 9685-66 EWT(1)/EWT(m)/EPF(n)-2/EWP(t)/EWP(b) IJP(c) JD/AT
 ACC NR: AP5027472 SUB CODE: UR/0032/65/031/011/1412/1413
 AUTHOR: Poskachev, A. A.; Ural'skiy, M. P. ^{44.55} ⁵³
 ORG: none
 TITLE: Measurement of the surface temperature of aluminum- and magnesium-alloy products by means of partial-radiation pyrometers ^{9M} ^{11.55, 27} ²⁷
 SOURCE: Zavodskaya laboratoriya, v. 31, no. 11, 1965, 1412-1413
 TOPIC TAGS: ^{21, 44, 55} radiation pyrometer, metal heat treatment, aluminum alloy, magnesium alloy, photodiode, photoresistor
 ABSTRACT: It is shown that partial-radiation pyrometers may, under specified conditions, be used in lieu of spectral-ratio pyrometers to monitor the temperature of the heat treatment and pressing of aluminum- and magnesium-alloy products within the range of 250-600°C. Germanium photodiodes and PbS photoresistors may be used as the radiation sensors within the 250-600°C range. However, given the same radiation factor ϵ , a pyrometer with a photodiode displays a smaller error than a pyrometer with a PbS photoresistor. ϵ in metals varies from 0.2-0.24 (surface finish) to 0.7-0.75 (oxidized surface). Therefore, the error in measuring ϵ may reach 6-8%. To reduce this error to 1-2%, calibration of the pyrometer with respect to the unoxidized surface ($\epsilon = 0.2-0.24$) is required. Orig. art. has: 1 figure
 SUB CODE: 11,14/ SUMM DATE: none/ ORIG REF: 003/ OTH REF: 000
 Cord 1/1 ²⁰ UDC: 536.7

80984

S/180/60/000/03/016/030

18.1210
AUTHORS: Poskachev, A.A. and Svet, D.Ya. (Moscow) ^{E193/E383} 21

TITLE: Investigation of the Radiant Emissivity of Aluminium
Alloys in the Near Infrared Region of the Spectrum

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh
nauk, Metallurgiya i toplivo, 1960, Nr 3, pp 86 - 91 (USSR)

ABSTRACT: When the temperature of a body is determined by measuring
the intensity of the radiant energy it emits, it is
necessary to know the spectral radiation coefficients.
In the case of the spectral ratio method by which so-
called "colour" temperature of a body is determined, it
is necessary to know the magnitude of the spectral
coefficients for two spectral regions, ϵ_{λ_1} and ϵ_{λ_2} .

If the body is "grey", i.e. if $\partial\epsilon/\partial\lambda = 0$, the "colour"
pyrometer indicates its true temperature irrespective of
the absolute values of ϵ_{λ_1} and ϵ_{λ_2} . In general,

however, corrections must be applied to the pyrometer
readings and in the case of the "colour" pyrometer this
requires the knowledge of the variation of the $\epsilon_{\lambda_2}/\epsilon_{\lambda_1}$ ✓

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S/180/60/000/03/016/030

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Investigation of the Radiant Emissivity of Aluminium Alloys in the Near Infrared Region of the Spectrum

ratio within the measured temperature range. The object of the investigation described in the present paper was to study the temperature dependence of the radiant emissivity of four aluminium alloys (D-16, V-65, AK-4, AK-5) in the near infrared region of the spectrum ($\lambda_1 = 1.60$, $\lambda_2 = 1.90 \mu$). The investigated temperature range was that within which alloys of this type are normally heat-treated, i.e. 350-500 °C. The measurements were carried out on specimens characterized by various surface conditions. The results are reproduced in Figures 3-6, where ϵ_{λ_1} (Curves a), ϵ_{λ_2} (Curves b) and $\epsilon_{\lambda_2}/\epsilon_{\lambda_1}$ (Curves v) are plotted against temperature (T, °C); numbers allotted to various curves relate to various surface conditions. The analysis of all the experimental curves obtained will show that ϵ_{λ} can change in the investigated temperature range between 0.2

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E193/E383

Investigation of the Radiant Emissivity of Aluminium Alloys in the Near Infrared Region of the Spectrum

and 0.1. This would explain why various attempts to apply optical and radiation pyrometers for measuring the temperature of the investigated alloys under industrial and laboratory conditions have been unsuccessful. On the other hand, it will be seen that the $\epsilon_{\lambda_2}/\epsilon_{\lambda_1}$ ratio does

not change in the investigated temperature range by more than $\pm 5\%$; since the experimental error can be assumed to be of the order of about 4% it means that for all the practical purposes $\epsilon_{\lambda_2}/\epsilon_{\lambda_1}$ is constant, the implication

being that under conditions similar to those employed during the present investigation, the studied alloys can be regarded as "grey" bodies. Consequently, the spectral ratio method is eminently suitable for measuring and automatically controlling the temperature of aluminium alloys during their heat treatment, the accuracy of the measurement being practically unaffected by the surface condition of the material. 4

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S/180/60/000/03/016/030
E193/E383
Investigation of the Radiant Emissivity of Aluminium Alloys in the
Near Infrared Region of the Spectrum

There are 6 figures and 5 references, 3 of which are
Soviet, 1 German and 1 French.

SUBMITTED: February 29, 1960

Card 4/4

4

L 55148-65

ACCESSION NR: AP5010652

UR/0119/65/000/004/0009/0011
536.521

AUTHOR: Poskachev, A. A. (Engineer); Ural'skiy, M. P. (Engineer)

TITLE: Spectral-ratio pyrometer for 300-500C

SOURCE: ¹⁰ Priborostroyeniye, no. 4, 1965, 9-11

TOPIC TAGS: pyrometer, spectral ratio pyrometer, 300-500C pyrometer

ABSTRACT: The development of a new 300-500C spectral-ratio pyrometer is reported. A focused beam from a hot body is directed to an FD-3 (or FD-2) Soviet-made Ge photodiode. The beam is chopped by a shutter carrying two different light filters and driven by a synchronous motor. As the shutter rotates, two different luminous fluxes reach the photodiode in alternation. These fluxes are converted by the photodiode into voltage pulses whose ratio is proportional to the measurand. A block diagram of the pyrometer is explained, and some of its characteristics are given. The pyrometer was tested under laboratory and

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ACCESSION NR: AP5010652

industrial conditions in measuring the temperature of aluminum ingots emerging from an induction furnace; the error was found to be 7C or less. "Engineer I. V. Zatoloka took part in the designing and industrial tests of the pyrometer." Orig. art. has: 4 figures and 11 formulas.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 00

SUB CODE: IE,TD

NO REF SOV: 006

OTHER: 001

Card 2/2

24.3500

66590

SOV/51-7-5-20/21

AUTHORS: Favorin, V.N. and Poskachevaya, L.P.

TITLE: Dependence of the Spectral Composition of Electroluminescence of
Certain Phosphors on the Alternating Field Intensity

PERIODICAL: Optika i spektroskopiya, 1959, Vol 7, Nr 5, pp 706-709 (USSR)

ABSTRACT: Oranovskiy and Trapeznikova found in 1957 that the colour of electroluminescence depends on the applied alternating-field intensity in ZnS-Cu,Mn type (two-colour) phosphors. The present paper reports a study of the electroluminescence spectrum of ZnS-Cu,Mn phosphors in alternating fields. The spectra were obtained with a monochromator UM-2 and a photomultiplier FEU-32. Luminance (brightness) was measured with a selenium photocell whose sensitivity was reduced to that of a human eye by means of a light filter. Measurements were made on solid luminescent layers in capacitors 70-100 μ thick. The results are shown in Figs 1-3. The spectra shown in these figures were obtained using fields of 600 (Fig 1), 60 (Fig 2), and 200 c/s (Fig 3) and applied voltages from 300 to 1100 V. The authors recorded also the spectral and luminance characteristics of a mixture of green (ZnS-Cu) and yellow (ZnS-Cu,Mn) phosphors. The mixture was prepared by simple mechanical intermingling of powders of the two phosphors and the spectra obtained using 200 c/s, 400-1300 V voltages are shown in Fig 5.

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KOZINA, G.S.; POSKACHEYEVA, L.P.

Integral luminescence brightness of ZnS-Cu and ZnS-Cu, Mn
phosphors in a pulsating (electric) field. Opt. i spekt. 8
no.2:214-217 F '60. (MIRA 13:10)
(Zinc sulfide) (Electric fields)

68886

S/051/60/008/02/012/036

E201/E391

24.3600

AUTHORS: Kozina, G.S. and Poskacheva, L.P.

TITLE: Integral Luminescence Brightness of ZnS-Cu and ZnS-Cu, Mn Phosphors in Pulsating (Electric) Fields

PERIODICAL: Optika i spektroskopiya, 1960, Vol 8, Nr 2, pp 214 - 217 (USSR)

ABSTRACT: The authors report measurements of the integral brightness (luminance) of electroluminescence of green (ZnS-Cu) and yellow (ZnS-Cu, Mn) phosphors excited with unipolar sinusoids and π -shaped pulses. Phosphor layers, 100 μ thick, were prepared by deposition of a mixture of the phosphor and dielectric binder on a glass plate coated with a transparent conducting film (this film served as one of the electrodes). A second electrode was prepared by vacuum deposition of aluminium on top of the phosphor layer. The measuring circuit is shown schematically in Figure 1: voltage was controlled by means of an oscillograph and brightness was measured using a selenium photocell. Electroluminescent brightness of yellow phosphors (ZnS-Cu, Mn) in pulsating fields was found to be several

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Integral Luminescence Brightness of ZnS-Cu and ZnS-Cu, Mn Phosphors
in Pulsating (Electric) Fields

times greater than their brightness in two-directional (ordinary AC) fields, as shown in Figures 2 and 3. Increase of the frequency reduces the rise of the electroluminescent brightness in unipolar pulse fields compared with two-directional (alternating) fields: at 100 c/s this rise is 600%, while at 500 c/s it falls to 270%. The rise of brightness was found to be accompanied by a considerable rise of the current passing through the phosphor layer. The rise of electroluminescent brightness and of the current were due to simultaneous action of DC and AC (two-directional) components; pulse fields can be represented as resulting from superposition of DC and AC fields. Brightness of electroluminescence of green (ZnS-Cu) phosphors in unipolar pulse fields was only slightly smaller than that in two-directional fields (Figure 4). The difference between the behaviour of ZnS-Cu, Mn and ZnS-Cu phosphors is due to the fact that the former luminesce in DC fields and are consequently

Card2/3

68886

S/051/60/008/02/012/036

Integral Luminescence Brightness of ZnS-Cu and ZnS-Cu, Mn Phosphors
in Pulsating (Electric) Fields

affected by the DC component of the pulse fields.
There are 4 figures and 3 references, 1 of which is
Soviet and 2 English.

SUBMITTED: May 25, 1959

Card 3/3

ZAKUSOV, V.V., professor; POSKALENKO, A.N., redaktor.

[Pharmacology of the nervous system] *Farmakologiya nervnoi sistemy*. Leningrad. Gos. izd-vo med. lit-ry, 1953. 256 p. (MLRA 7:8)

1. Deystvitel'nyy chlen AMN SSSR (for Zakusov)
(Pharmacology)

POSKALENKO, A. N. (Leningrad)

Secretion of noradrenalin in reflex excitation of the adrenals.
Probl. endokr. i gorm. 1 no.5:92-96 S-O '55. (MLRA 8:10)

1. Iz kafedry farmakologii Leningradskogo sanitarno-gigiyenicheskogo meditsinskogo instituta (zav.--deystvitel'nyy chlen Akademii meditsinskikh nauk SSSR prof. S.V.Anichkov)

(ARTERENOL, physiology,
secretion, eff. of potassium cyanide)
(CYANIDES, effects,
potassium, on arterenol)

POSKALENKO - A. N.

Effects of some anesthetics on vascular responses to nerve impulses. A. N. Poskalenko (Inst. Sanitation and Health, Leningrad). *Farmakol. i Toksikol.* 18, No. 6, 8-13 (1955).
 —Procaine, and the 1-(2-hydroxyethyl)piperidine esters (I and II) of $BzOH$ and $Ph_3CHCOOH$, were given intravenously (dose 2.4-8.2 mg./kg.) to cats, and responses to nerve stimuli (adrenaline injection) were measured plethysmographically. Vascular responses were weakened by all 3 drugs; procaine and I had transitory effects while the effect of II was greater and longer lasting. Results were similar after mech. nerve stimulation, but with intraarterial dosage the effect was relatively less after mech. than after adrenaline nerve stimulation. Some tests were also made with picaine and anicaine (intraarterial dosage).
 Julian F. Smith

Chem. Pharmacology

Med

POSKALENKO, A.N.

Effects of difacil on the function of the adrenal cortex.
Trudy LSGMI 37:29-35 '58. (MIRA 12:8)

1. Kafedra farmakologii Leningradskogo sanitarno-gigiyenicheskogo meditsinskogo instituta (zav.kafedroy - deystvitel'nyy chlen AMN prof. S.V.Anichkov).

(PARASYMPATHOLYTICS, eff.

adiphenine on adrenocortical funct. in cats
& rats (Rus))

(ADRENAL CORTEX, eff. of drugs on
adiphenine on funct. in cats & rats (Rus))

POSKALENKO, A.N.

Reflexes from the glomus caroticum on the adrenal cortex. [with summary in English]. Probl.endok. 1 gorm. 4 no.1:46-53 Ja-F'58 (MIRA 11:5)

1. Iz kafedry farmakologii (zav. - deystvitel'nyy chlen AMN SSSR prof. S.V. Anichkov) Leningrad'skogo sanitarno-gigiyenicheskogo meditsinskogo instituta.

(CAROTID BODY, effect of drugs on

potassium cyanide, adrenocortical responses (Rus))

(ADRENAL CORTEX, physiology.

eff. of carotid body reaction to potassium cyanide (Rus))

(CYANIDES, effects.

potassium, on carotid body, adrenocortical responses (Rus))

TOMILINA, Tat'yana Nikolayevna, dotsent; POSKALENKO, A.N., red.;
RULEVA, M.S., tekhn.red.

[Pocket prescription manual for physicians] Karmannyi
retsepturnyi spravochnik dlia vrachei. Leningrad, Gos.izd-vo
med.lit-ry Medgis, Leningr.otd-nie, 1960. 295 p.

(MIRA 14:4)

(MEDICINE--FORMULAE, RECEIPTS, PRESCRIPTIONS)

POSKALENKO, A.N.

Effect of substances acting upon adrenal function in the region
of the central cholinergic synapses. Probl. endok. i gorm. 6
no. 4:14-17 J1-Ag '60. (MIRA 14:1)
(ADRENAL CORTEX) (PARASYMPATHOMIMETICS)

ABRAMOVA, Zh.I., kand. med. nauk; ANICHKOV, S.V., prof.; BELEN'KIY, M.L.,
prof.; VAL'DMAN, A.V., doktor med. nauk; VEDENEYEVA, Z.I., kand.
med. nauk; VINOGRADOV, V.M., kand. med. nauk; GERSHANOVICH, M.L.,
kand. med. nauk; GINETSI'NSKIY, A.G., prof.; GORBOVITSKIY, S.Ye.,
prof.; GREBENKINA, M.A., dotsent; GREKH, I.F., dots.; DENISENKO,
P.P., kand. med. nauk; D'YACHENKO, P.K., kand. med. nauk; ZHESIYANIKOV,
V.D., kand. med. nauk; ZAUGOL'NIKOV, S.D., prof.; ZEYMAL', E.V., kand.
med. nauk; ISKAREV, N.A., kand. med. nauk; KARASIK, V.M., prof.;
KIVMAN, G.Ya., kand. med. nauk; KOZLOV, O.D., kand. med. nauk; KROTOV,
A.I., doktor veter. nauk; KUDRIN, A.N., doktor med. nauk; LAZAREV, N.V.,
prof.; LAPIN, I.P., kand. med. nauk; MEL'NIKOVA, V.F., prof.;
MESHCHERSKAYA, K.A., prof.; MIKHEL'SON, M.Ya., prof.; MOSHKOVSKIY,
Sh.D., prof.; PADEYSKAYA, Ye.N., kand. med. nauk; PARIBOK, V.P., prof.;
PERSHIN, G.N., prof.; PLANEL'YES, Kh.Kh., prof.; PONOMAREV, G.A.,
prof.; POSKALENKO, A.N., kand. med. nauk; MUKHIN, Ye.A., dots.;
ROZOVSKAYA, Ye.S., dots.; RYBOLOVLEV, R.S., starshiy nauchnyy sotr.;
SALYAMON, L.S., kand. med. nauk; SAFRAZBEKYAN, R.R., kand. biol. nauk;
TIUNOV, L.A., kand. med. nauk; TOMILINA, T.N., dots.; FELISTOVICH,
G.I., kand. med. nauk; FRUYENTOV, N.K., kand. med. nauk; KHAUNINA,
R.A., kand. med. nauk; TSYGANOV, S.V., prof.[deceased]; CHERKES, A.I.,
prof.;

(Continued on next card)

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ABRAMOVA, Zh.I.---(continued) Card 2.

CHERNOV, V.A., doktor med. nauk; SHADURSKIY, K.S., prof.;
YAKOVLEV, V.Ya., doktor khim. nauk; MASHKOVSKIY, M.D., red.;
NIKOLAYEVA, M.M., red.; RULEVA, M.S., tekhn. red.; CHUNAYEVA,
Z.V., tekhn. red.

[Manual on pharmacology] Rukovodstvo po farmakologii. Leningrad,
Medgiz. Vol.2. 1961. 503 p. (MIRA 15:1)

1. Deystvitel'nyy chlen Akademii meditsinskikh nauk SSSR (for
Anichkov, Karasik, Cherkes). 2. Chlen-korrespondent Akademii medi-
tsinskikh nauk SSSR (for Belen'kiy, Ginetsinskiy, Moshkovskiy,
Planel'yes).

(PHARMACOLOGY)

POSKALENKO, A.N.

Mechanism of action of diphacil (spasmolytin) on adrenocortical function. Biul. eksp. biol. i med. 51 no.3:76-79 Mr '61.
(MIRA 14:5)

1. Iz kafedry farmakologii Leningradskogo sanitarno-gigiyenicheskogo meditsinskogo instituta (dir. - prof. A.Ya.Ivanov, zaveduyushchiy kafedroy - deystvitel'nyy chlen AMN SSSR S.V. Anichkov). Predstavlena deystvitel'nyy chlenom AMN SSSR S.V. Anichkovym.
(ADRENAL CORTEX) (ADIPHENINE)

TOMILINA, T.N.; POSKALENKO, A.N.; MAL'GINA, Ye.I.; IGNAT'YEVA,
M.A.; ANICHKOV, S.V., prof., red.; PYEHTINA, A.A.,
red.

[Practical work in pharmacology] Praktikum po farmakologii.
Moskva, Meditsina, 1965. 189 p. (MIRA 18:2)

1. Deystvitel'nyy chlen AMN SSSR (for Anichkov).

POSKA-TEISS, L.M.

Uterine mesothelium in various stages of pregnancy in cats.
Arkhnat. gist. i embr. 33 no.1:28-34 Ja-Mr '56 (MIRA 12:1)

1. Iz kafedry genetiki i darvinizma (zav. -kand.biol.nauki O.F. Mikhaylov) Tartusskogo gosudarstvennogo universiteta. Adres avtora: Tartu, Estonskaja SSR, Universitet, Kafedra genetiki i darvinizma.

(UTERUS, anatomy and histology,

mesothelium in various stages of pregn. in cat (Rus))

(PREGNANCY, physiology,

uterine mesothelium in various stages of pregn. in cat (Rus))

SVET, D.Ya.; POSKACHEY, A.A.

Some systems of the infrared pyrometry. Priborostroenie
no.7:28-29 J1 '60. (MIRA 13:7)
(Pyrometers)
(Infrared rays--Industrial applications)

COUNTRY : Czechoslovakia G-2
 CATEGORY : Organic Chemistry--Synthetic organic chemistry
 ABS. JOUR. : RZKhim., No. 16 1959, No. 57146
 AUTHOR : Chmatal, V., Poskocil, J., and Allan, Z. J.
 INST. : Not given
 TITLE : Aromatic Diazo and Azo Compounds. XXX. UV
 Spectra and Coplanarity of Derivatives of
 2-Phenyl-naphtho-(1,2)-Triazole
 ORIG. PUB. : Chem Listy, 52, No 6, 1156-1162 (1953)
 ABSTRACT : The authors have synthesized a number of ortho-
 and para-substituted derivatives of 2-phenyl-
 naphtho-(1,2)-triazole (I). A comparison of
 the UV spectra shows deviations from coplanarity
 in the ortho-substituted I (with the exception
 of o-fluoro derivatives), caused by steric
 hindrance. o-chloroaniline is diazotized
 (0.1 mol in 20 ml 36% HCl and 200 ml water,
 2°, 40 ml 2.5 N NaNO₂), the excess HNO₂ is
 decomposed with sulfamic acid, and a cooled

CARD: 1/7

COUNTRY : Czechoslovakia G-2
CATEGORY :
ABS. JOUR. : RZKhim., No. 16 1959, No. 57146
AUTHOR :
INST. :
TITLE :
ORIG. PUB. :
ABSTRACT : the color disappears, 200 ml water are added, the solution is cooled, and o-Cl-I (II) is separated, yield 3.2 gms, mp 137-138° (from 3:1 alcohol-benzene); II-sym-(NO₂), C₆H₅, mp 127°. A similar procedure is used in the preparation of the following I (R, R', the mp in °C (corr) are given in that order): H, CH₃, 148 (from 94% alc); OCH₃, H, 112-113 (from 3 : 1 alc-benzene); H, OCH₃, 125 (from 3 : 1 alc-benzene); C₆H₅, H, 104 (from petroleum ether); H, C₆H₅,
CARD: 3/7

APPROVED FOR RELEASE: 07/13/2001

CIA-RDP86-00513R001342610011-2"

COUNTRY : Czechoslovakia G-2
CATEGORY :
ABS. JOUR. : RZKhim., No. 16 1959, No. 57146
AUTHOR :
INST. :
TITLE :
ORIG. PUB. :
ABSTRACT : 151 (from benzene); F, H, 106-107 (from petroleum ether); H, F, 148-149 (from 1 : 1 alc-benzene); H, Cl, 187-188 (from 1 : 1 alc-benzene); Br, H, 148-149 (from 70% CH₃COOH); H, [sic] 123-124 (benzene); H, I, 223 (from 90% CH₃COOH); and m-Cl-I, mp 159° (from 1 : 1 alc-benzene). Orthoanilic acid is diazotized (0.05 mol in 20 ml 2.5 N Na₂CO₃ and 200 ml water, 5°, 50 ml 2.5 N HCl, 100 gms ice, and 20 ml 2.5 N NaNO₂) and coupled with 2-naphthylamine (0.05 mol in
CARD: 4/7

VESELY, M.; MUZIK, F.; POSKOCIL, J.

Aromatic diazo and azo compounds. Part 44: Metallic formazan dyes produced from acetoacetic acid methyl ester and formation of azo dyes from triazole group. Coll Cz Chem 26 no.10:2530-2541 0 '61.

1. Organisch-technologisches Laboratorium I, Forschungsinstitut für organische Synthesen, Pardubice-Rybitví.

MATRKA, M.; POSKOCIL, J.; SAGNER, Z.; STERBA, Z.

Oxydation of N,N,N',N'-tetraethyl-4,4'-diaminoazobenzene with cerium (IV)-sulfate. Coll Cz Chem 26 no.12:3177-3180 D '61.

1. Organisch-technologisches Laboratorium I, Forschungsinstitut für organische Synthesen, Pardubice-Rybitvi.

POSKOCIL, J.; ALLAN, Z.J.

Aromaticazo and diazo compounds. XXXIV. Abstraction of the acetyl group from azo dyes derived from acetoacetanilide and determination of new formazan dyes. In German. Coll.Cz.Chem. 24 no.11:3746-3753 N '59. (EBAI 9:5)

1. Forschungsinstitut fur organische Synthesen, Pardubice-Rybitvi.
(Aromatic compounds) (Diazo compounds) (Azo compounds) (Acetyl group)
(Acetoacetanilide) (Formazans) (Dyes and dyeing)

MUKHACHEV, G.A., kand. tekhn. nauk; POSKONIN, Yu.A., inzh.

The i-s diagram of a vapor and air mixture in the region of low
temperatures and pressures. Teplcenergetika 11 no.6:93-95 Je '64.
(MIRA 18:7)

MUKHACHEV, G.A., kand. tekhn. nauk; BORODIN, V.A., inzh.; POSKONIN, Yu.A.,
inzh.

I-s diagram for water vapor at low temperatures and pressures.
Teploenergetika 10 no.10:89-92 0'63 (MIRA 17:7)

1. Kazanskiy aviatsionnyy institut.

S/081/62/000/005/012/112
B158/B110

AUTHOR: Poskotin, D. L.

TITLE: Geochemical prospecting of nonferrous metal deposits with large-scale geological mapping in the Pyshminsk mining district of the Central Urals

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 5, 1962, 118, abstract 5G10 (Tr. Sverd. gorn. in-ta., no. 38, 1961, 94 - 105)

TEXT: Geochemical prospecting of Cu, Ni, and Co deposits (metallometric and hydrochemical survey) was carried out at the same time as a geological survey in the Pyshminsk mining area which is made up of effusive, intrusive, metamorphic and, to a lesser extent, sedimentary rock. The method of selecting samples is described. Determination of the elements mentioned in 192 samples showed that a considerable amount of Cu is concentrated in amphibolites, amphibolic schists, porphyrites, talc-chloritic and chloritic schists. Co in small amounts is present in all rock, while relatively greater concentrations are found in schists, porphyrites and serpentines. Serpentine is distinctly enriched with Ni, which is found in other rock
Card 1/2

S/091/62/000/005/016/112

B158/B110

Geochemical prospecting of ...

in appreciable amounts. The Cu and Ni contents in native rocks are two and more times greater than their concentrations in loose deposited rocks. Calculation of the coefficient of abnormality (ratio of the number of samples with abnormal contents to the total number of analyses) shows that the most promising for Cu prospecting are porphyrites, chloritic, talc-chloritic and amphibolic schists. Prospecting for Co needs to be carried out on terraces composed of schists and serpentines; for Ni, serpentines are the most promising. Aureoles of the distribution of these metals are located in agreement with the general geological structure and the course of individual types of rock, but are irregularly distributed; they are age-correlated with the loose deposits above the native metal-enriched rock. In places, aureoles of Cu and Co and Ni and Co distribution do not agree spatially. The Cu content in 95 samples of water varies from 0.0004 to 0.006 mg/liter at a background content of 0.001 mg/liter. Two hydrochemical anomalies are revealed, which agree with aureoles of Cu distribution above the Cu-enriched metamorphic schists. The use of hydrochemical methods in the region is particularly expedient, since ore substances occur which do not appear on the outer surface. [Abstracter's note: Complete translation.]

Card 2/2

COUNTRY : Czechoslovakia
CATEGORY :
ABS. JOUR. : RZKhim., No. 1959, No. 86646
AUTHOR : Chmatal, V.; Poskocil, J.; Allan, Z.J.
INST. :
TITLE : Aromatic Diazo- and Azo-Compounds. XXX. Ultra-
violet Spectra and Coplanarity of Derivatives
of 2-Phenylnaphtho-(1,2)-Triazole.
ORIG. PUB. : Collect. Czechosl. Chem. Commun., 1959, 24,
No 2, 494-502
ABSTRACT : See RZKhim, 1959, No 16, 57146.

CARD:

POSKROBKO, A.A.

Ways of increasing the operational reliability of the N60
electric locomotive. Sbor. nauch. trud. EINII 2:24-34 '62.
(MIRA 16:8)

(Electric locomotives)

POSKUS, Balya; MALISAUSKAS, V., otv. red.; MESKAUSKAS, K., red.;
POVILIUNAS, A., red.; MONTRIMAS, J., red.; CECYTE, V.,
tekhn. red.

[Lowering costs on collective farms] Savikainos mazinimas
kolukiuose. Vilnius, Valstybine politines ir mokslines
literaturos leidykla, 1961. 106 p. (MIRA 15L3)
(Lithuania--Collective farms)

GROTT, Jozef W.; POSKUTA, W.; PEDRYCZ, W.

Observations on the appearance of intestinal parasites among patients referred for sanatorial therapy at the Therapeutic Center in Busko-Spa. Pol. tyg. lek. 18 no.4:130-134 21 Ja '63.

1. Z I Kliniki Chorob Wewnętrznych AM w Łodzi, Ośrodek Naukowo-Leczniczy w Busku-Zdroju; kierownik. prof. dr nauk. med. J.W. Grott i z Wojewódzkiej Stacji San.-Epid. w Kielcach; kierownik: dr med. A. Cwiakala.

(INTESTINAL DISEASES, PARASITIC) (STATISTICS)

POSLAVSKAYA, G.G.

Upper Hauterivian deposits of the Ilovlya-Medveditsa interfluvium in
Stalingrad Province. Dokl. AN SSSR 140 no.3:682-684 S '61.
(MIRA 14:9)

1. Saratovskiy gosudarstvennyy universitet im. N.G.Chernyshevskogo.
Predstavleno akademikom D.V.Nalivkinym.
(Volgograd Province--Geology, Stratigraphic)

GLUSHKOV, Viktor Grigor'yevich, inzh., gidrolog [1883-1939]; L'VOVICH, M.I.;
GERASIMOV, I.P., akademik, red.; BLIZNYAK, Ye.V., red. [deceased];
DAVIDOV, M.I., KUNIN, V.N., otv. red.; POSLAVSKIY, V.V., red.; BIRINA,
A.V., red. izd-va; POLYAKOVA, T.V., tekhn. red.

[Theoretical problems and methods of hydrological research] Voprosy
teorii i metody gidrologicheskikh issledovaniy. Moskva, Izd-vo
Akad. nauk SSSR, 1961. 415 p. (MIRA 14:9)
(Hydrology—Research)

1. Title : PLANT
2. Subject : Activated Plant, Grass. Location: Tropical
3. Source : Tropical Journal.

4. Date : Def Zhar-Biologiya, No. 1, 1959, No. 1015

Author : Gorodkov, M.A.; Kuznetsov, Ya.V. et al.

Institution : Odessa Agric. Inst.

Abstract : Reports on Industrial Experiments for a series of collective settlements of the Odessa, Kemerovskii, Kiev and Smolensk regions.

Original : Odessa, n.-ka. 10-59, 1959, 13, 14-15

Abstract : No abstract.

CARD : 1/1

FOSOKHOV, P. P. Cand Agr Sci -- (diss) "Types of forests and the basic laws
of their formation in the northern mountain-forest ^{regions} ~~regions~~ of the Crimea."
Khar'kov, 1959. 26 pp (Min of Agr UkSSR. Khar'kov Order of Labor Red Banner
Agr Inst im V. V. Dokuchayev), 150 copies (KL, 44-59, 128)

POSOKHOV, Ye.V.

Hydrochemistry of the alluvial waters of some lowlands in central Kazakhstan. Gidrokhim.mat. 29:153-168 '59.

(MIRA 13:5)

1. Kafedra inzhenernoy geologii i gidrogeologii Novocherkasskogo politekhnicheskogo instituta, Novocherkassk.

(Kazakhstan--Rivers) (Kazakhstan--Water--Analysis)

POSKOCHIL, J.

CZECHOSLOVAKIA / Organic Chemistry. Synthetic Organic G-2
Chemistry.

Abs Jour: Ref Zhur-Khimiya, No 23, 1958, 77595.

Author : Poskochil, Ya. and Allan, Z. I.

Inst : Not given.

Title : Aromatic Diazo- and Azo Compounds. XXIV. The
Oxidation of Azo Dyes to Diazo Compounds.

Orig Pub: Collect Czechoslov Chem Commun, 23, No 4, 720-724
(1958) (in Russian with a German summary).

Abstract: See RZhKhim, 1958, 11348.

Card 1/1

CZECHOSLOVAKIA/Organic Chemistry. Synthetic Organic Chemistry. G-2
 Abs Jour: Referat Zhur-Khimiya, No 4, 1958, 11348.

212° (from C_6H_5Cl). 3.8 gms V in 10 C_5H_5N and 200 ml alcohol on treatment with 10 ml 98% CH_3COOH and dropwise addition of 0.01 mol of III give 3.9 gms 4-benzenazo-V (VI), mp 216°. The oxidation of 3.8 gms VI in 80 ml C_5H_5N by 6 gms $CuSO_4 \cdot 5H_2O$ in 30 ml water (70°, 10 min) leads to the formation of 3.5 gms 7-tosylamino-2,5-diphenyl-ang [sic]-benzobistriazole (VII), mp 239.5°. VII couples with III in anhydrous C_5H_5N to give 8-benzeneazo-VII (VIII), mp 221° (from C_6H_5Cl -alcohol). The oxidation of VIII by a method similar to that used in the case of VII but at [TW]: there is an apparent omission in the text/ boiling 2,5,8-triphenylbenzotriazole (IX) (an mp is not given). V couples with p- CH_3COO - H_2N as with III to form 4-(4'-methoxybenzenazo)-5-amino-6-tosylamino-2-phenyl-benzotriazole which on oxidation by a procedure similar to that used in the case of VI gives 7-

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CZECHOSLOVAKIA/Organic Chemistry: Synthetic Organic Chemistry. G-2

Abs Jour: Referat Zhur-Khimiya, No 4, 1958, 11348.

tosylamino-5-(4'-methoxyphenyl)-2-phenyl-ang-benzobistria-
zole (X), mp 230° (from benzene). The coupling of X with
p-ClC₆H₄N₂Cl at 15° in C₅H₅N gives 8-(4''-chlorobenzeneazo)-
7-tosylamino-5-(4'-methoxyphenyl)-2-phenyl-ang-benzobistria-
zole (XI), mp 212-213° (decomp; from C₆H₅Cl and alcohol). XI
on oxidation gives 2-phenyl-5-(4'-methoxyphenyl)-8-(4''-
chlorophenyl)-benzobistriazole, bp 430°/12 mm, mp 318° (from
C₆H₅Cl). 5-benzeneazo-N¹-tosyl-1,2,4-triaminobenzene-4'-
sulfonic acid, prepared by a method similar to that used in
the synthesis of IV in the form of a paste (158 gms) by the
coupling of 0.05 mol II with 0.05 mol p-diazobenzene-sul-
fonate (XII) on dissolution in 270 ml water in the presence
of NaOH, followed by oxidation as in the case of IV (the
reaction product is salted out with NaCl and the Na salt
is acidified during boiling) is converted to 5-amino-6-

Card : 4/11

CZECHOSLOVAKIA/Organic Chemistry. Synthetic Organic Chemistry. G-2

Abs Jour: Referat Zhur-Khimiya, No 4, 1958, 11348.

tosylamino-2-phenylbenzotriazole-4'-sulfonic acid (XIII), yield 15.18 gms. 13.8 gms XIII and 0.03 mol XII in CH_2COOH (2 hrs) give 6-tosylamino-5-amino-4-benzeneazo-2-phenylbenzotriazole-4', 4''-disulfonic acid which is neutralized (congo red endpoint) and oxidized at 60° by an ammoniacal solution of 20 gms crystalline CuSO_4 with the addition of NaOH . On salting out 21 gms of the trisodium salt of 7-tosylamino-2,5-diphenyl-ang-benzobistriazole-4', 4''-disulfonic acid (XIV) are obtained. The corresponding disodium salt is formed by the acidification of a solution of XIV and crystallization from 66% alcohol. It has been proved by paper chromatography that the coupling of XIV with XII in an aqueous solution of Na_2CO_3 gives 8-benzeneazo-7-amino-2,5-diphenyl-ang-benzobistriazole-

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CZECHOSLOVAKIA/Organic Chemistry. Synthetic Organic Chemistry. G-2

Abs Jour: Referat Zhur-Khimiya, No 4, 1958, 11348.

4',4'',4'''-trisulfonic acid (XV), R_f 0.19, and 8-benzeneazo-7-tosylamin-2,5-diphenyl-ang-benzobis-triazole-4',4'',4'''-trisulfonic acid (XVI), R_f 0.47. On refluxing a portion of the reaction mixture after coupling with a solution of CuSO_4 in NH_4OH followed by acidification gives 2,5,8-triphenylbenzobistriazole-4',4'',4'''-trisulfonic acid (XVII). When XIV is heated (50° , 0.5 hr) with 98% H_2SO_4 , the reaction mixture is poured over ice, dissolved in NaOH , and salted out, the sodium salt of 7-amino-2,5-diphenyl-ang-benzobistriazole-4',4''-disulfonic acid is obtained; the latter couples in mineral acids with diazonium salts to give an orange dye which on oxidation by CuSO_4 gives XVII, isolated in the form of the Ba-salt. When 4.6 gms V are heated (60° , 1 hr) with 24 ml 88% H_2SO_4 2.55 gms 5,6-diamono-2-phenylbenzotriazole (XVIII) are

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CZECHOSLOVAKIA/Organic Chemistry. Synthetic Organic Chemistry. G-2

Abs Jour: Referat Zhur-Khimiya, No 4, 1958, 11348.

obtained, mp 244° (from alcohol). Similarly, using 98% H_2SO_4 , XIII gives 5,6-diamino-2-phenylbenzotriazole-4'-sulfonic acid (XIX), isolated as the Na salt. XIX couples in C_5H_5N with an excess of XII, forming a reddish-brown dye which on the basis of similarity considerations has been assigned the structure 4,7-bis-benzeneazo-5,6-diamino-2-phenylbenzotriazole-4',4'',4''' trisulfonic acid. 0.563 gms VIII in 4ml C_5H_5N and 50 ml alcohol react with 5.16 mmol III to give 1 gm 4,7-bis-benzeneazo-5,6-diamino-2-phenylbenzotriazole (XX), which on oxidation with $CuSO_4 \cdot 5H_2O$ in C_5H_5N is converted to IX. XX in 80% CH_3COOH ($\sim 20^{\circ}$, 1 hr) splits off both amino groups to form 4,7-bis-benzeneazo-5,6-dihydroxy-2-phenylbenzotriazole. The coupling of 1.9 gms V with a solution of 11 mmol III in 100 ml C_5H_5N at -8° followed by dilution of the re-

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00513R001342610011-2

.CZECHOSLOVAKIA/Organic Chemistry. Synthetic Organic Chemistry. G-2

Abs Jour: Referat Zhur-Khimiya, No 4, 1958, 11348.

mp 222.5° /TN: the prefixes ang- and lin- apparently refer to the angular and linear configuration of the benzo-bistriazole group / (from 98% CH₃COOH), which on heating in 98% H₂SO₄ (90°) is converted to 5-H-2-phenyl-lin-benzobistriazole (mp not given) which is identical with the earlier prepared compound (K. Fries and E. Roth, Liebigs Ann Chem, 389, 335 (1912)). The addition of a solution of NaNO₂ to an alcoholic or aqueous suspension of XIII followed by acidification gives the Na salt of 5-tosyl-2-phenyl-lin-benzobistriazole-4'-sulfonic acid which on refluxing in 2.5 N NaOH gives the Na salt of 5-H-2-phenyl-lin-benzobistriazole-4'-sulfonic acid; the latter is also formed by the action of HNO₂ on XIX. 0.02 mol of tetra-azotized benzidine are coupled at 0-5° with 0.0216 mol

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CZECHOSLOVAKIA/Organic Chemistry. Synthetic Organic Chemistry. G-2

Abs Jour: Referat Zhur-Khimiya, No 4, 1958, 11348.

Na-salicylate, NaOH is added until the pH is brought to 7.5, and the reaction mixture treated with 0.0217 mol II in 100 ml water and 9 ml 2.5 N HCl, the solution is made alkaline (diamond yellow endpoint) with 2.5 N Na₂ CO₃; after 12 hrs a diazo dye is isolated which on air oxidation at 40° in alkaline medium in the presence of 0.4 gm crystalline MnSO₄ and 0.5 gm CuSO₄ · 5H₂O followed by acidification gives benzotriazole azo dyes. All mp reported above are corrected.

XIV. It has been established (by the air oxidation of azo dyes obtained from 1-diazo-2-naphthol-4-sulfonic acid (XXII) and resorcinol (XXIII) or by the oxidation of naphthols (see reference above)) that dyes obtained from isomers of XXII., i.e., from 1,2,5-,

Card : 10/11

POSKOCIL, J.

SURNAME, Given Names

Country: Czechoslovakia

Academic Degrees: [not given]

Affiliation: Organic-Technological Laboratory I, Research Institute of
Organic Synthesis (Organisch-technologisches Laboratorium I,
Forschungsinstitut fuer organische Synthese), Pardubice-Rybitvi

Source: Prague, Collection of Czechoslovak Chemical Communications,
Vol 26, No 10, October 1961, pp 2330-2341

Data: "Aromatic Diazo and Azo Compounds. XLIV.
Metallized Formazan Dyes Made from Acetoacetic
Ethyl Ester and the Formation of Azo Dyes with
a Triazole Ring."

Authors:

VESELY, M
MUZIK, F
POSKOCIL, J

POSKOCIL, J.

CZECHOSLOVAKIA/Organic Chemistry. Synthetic Organic Chemistry.

G-2

Abs Jour: Ref. Zhur.-Khimiya, No II, 1958, 36205

Author : Muzik, Allan, Poskocil.

Inst : Not given.

Title : Derivatives of Carbazole. IV. Synthesis of 3,6-dichlor-
1,8-diamincarbazole.

Orig Pub: Chem. listy, 1957, 51, No 5, 984-985.

Abstract: 400 gr. of 97% carbazole in 4 liters of ethylenetrichloride are saturated (3 hours at 10°C) with 350gr. of Cl₂, then heated up to 60°, followed by cooling to 10° and by repeated addition of 40 gr. of Cl₂ that yields 56.4% of 3, 6-dichlorcarbazole (I) of 198° melting point (unpurified). To the filtrate are then added 180 gr. of Cl₂ at 20° and 80gr. of Cl₂ at 60° and precipitate out 84 gr. of I, 3, 6, 8-tetrachlorcarbazole of 200° melting point.

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CZECHOSLOVAKIA/Organic Chemistry. Synthetic Organic Chemistry.

G-2

Abs Jour: Ref. Zhur.-Khimiya, No II, 1958, 36205.

By means of nitrating the raw I in a mixture with CH_3COOH and $(\text{CH}_3\text{CO})_2\text{O}$ using the 98% HNO_3 at 7° , then at 60° , and finally at 75°C followed by heating up to the boiling point the mixture is then filtered. Thus synthesized 3, 6-dichlor-1,8-dinitrocarbazole (II) has a yield of 84%. Reduction of 10 gr. of II is conducted in 300cc of 94% alcohol with the aid of 1 gr of lattice Ni (97° , 50 atmospheres). 3,6-dichlor-1, 8-diaminocarbazole of 205° melting point is then obtained by precipitation with water. In the reduction of more concentrated solutions of II (30 gr. in 300 cc of 94% alcohol) the 3, 3', 6, 6'-tetrachlor-8, 8'-dinitro-1,1'-azocarbazole is formed (8.6 gr. yield). It does not melt. It crystalizes as needles from $\text{C}_6\text{H}_5\text{NO}_2$. Ref. to Ref. Zhur.-Khimia, 1957 - 57514.

Card : 2/2

Poskočil, J.

1 1 15-
 // Aromatic diazo and azo compounds. XXI. New yellow dyestuffs analogous to chloramine yellow. J. Poskočil and Z. J. Allan. XXII. Determination of constitution of Resolix dyestuffs. F. Mulik and Z. J. Allan (Coll. Trav. chim. Tehcov., 1957, 22, 548-557; 558-568).—XXI. Three new dyes are prepared by the oxidation

with NaClO of the 2-(p-aminophenyl) derivatives of sulphonated 6-methylbenzimidazole, 5-methylbenzimidazole and naphthothiazole. Further analogues of chloramine yellow, with a naphthothiazole grouping, are obtained from 2-(p-aminophenyl)-6-methylbenzimidazole-7-sulphonic acid by diazotization and coupling first with m-toluidine (I) and then with 2-naphthylamine-5 : 7-disulphonic acid (II), followed by oxidation with CuSO₄; from p-amino-o-sulpho-oxanilic acid by diazotization and coupling with 2-naphthylamine-6-sulphonic acid and oxidation with CuSO₄; followed by further diazotizations and couplings with I and II and oxidation with NaClO; and from benzidine by diazotizations and couplings with I and II and oxidation with CuSO₄. The colouring properties of the new dyes are given. (15 references.)

XXII. Improved methods of finding the constitution of azo dyes are described. These methods are based on splitting by reduction with SnCl₂ and identification of the resulting amines. Electrolytic removal of Sn is done with conc. HCl in the anode compartment. Metallic Sn is filtered off under an applied p.d. to reduce re-solution. Products containing the triazine ring are hydrolyzed with 75% H₂SO₄ at 140-160°. Characteristic reactions with 63% H₂SO₄ are used. Oxidations proceed readily with air in presence of cupric ions. Differently substituted 4-aminopyrazol-5-ones can be identified by the colours of the indophenols formed by oxidative condensation with resorcinol. Some amines and amino-acids can be identified by diazotization, coupling with R salt, and paper chromatography; others are identified as their oxidation products. These methods are used to establish the structures of 19 dyes. (31 references.) (In German.)

A. B. DENTHAM.

RM

POSKOCIL, J; ALLAN, Z.

"Aromatic Diazocompounds. XIII. Oxidation of Some Azo Dyes With Air." p. 305.
(COLLECTION OF CZECHOSLOVAK CHEMICAL COMMUNICATIONS. SBORNIK CHEKOSLOVATSKIKH
KHEMICHESKIKH RABOT. Vol. 19, No. 2, Apr. 1954; Praha, Czech.)

So: Monthly List of East European Accessions, (EEAL), IC, Vol. 4, No. 4,
April 1955, Uncl..

POSKOCIL, J.; ALLAN, Z.L.

Aromatic diazocompounds. Part 13. Oxidation of some azo dyes with air [with summary in English]. Sbor.Cekh.khim.rab. 19 no.2:305-316
Ap '54. (MLRA 7:6)

1. First Laboratory of Organic Technology, Organo-synthetic Research Institute, Pardubice-Rybitvi. (Azo dyes) (Triazolone)

Poskočil, Jaroslav

✓ Aromatic diazo compounds. XX. Oxidation of azo dyes prepared from acetoacetanilide. Jaroslav Poskočil and Zdeněk J. Allan (Výzkumný ústav org. syliies, Pardubice-Rybitví, Czech.). *Chem. Listy* 50, 111-115 (1956); cf. *C.A.* 50, 1041g. — Coupling $\text{AcCH}_2\text{CONHPh}$ (I) with diazonium salts of 2,5- $\text{HO}(\text{NH}_2)\text{C}_6\text{H}_3\text{CO}_2\text{H}$ (II) and 2,4- $\text{HO}(\text{H}_2\text{N})\text{C}_6\text{H}_3\text{CO}_2\text{H}$ (III) gave 3,4- $\text{HO}_2\text{C}(\text{HO})\text{C}_6\text{H}_3\text{N}:\text{NCHAcCO-NHPh}$ (IV) and 4,3- $\text{HO}_2\text{C}(\text{HO})\text{C}_6\text{H}_3\text{N}:\text{NCHAcCONHPh}$ (V), resp. Oxidation of IV gave 1-phenyl-2-(p-hydroxy-m-carboxyphenyl)-4-acetyl- Δ^4 -1,2,3-triazolin-5-one (VI) whereas V was left intact by air or CuSO_4 , and was deeply degraded with NaClO or KMnO_4 . II (0.1 mole) was diazotized, the cryst. diazonium compd. isolated, its soln. added to a cooled (5°) mixt. of 17.7 g. I dissolved in 250 ml. H_2O and 40 ml. 2.5N NaOH and 250 ml. 2.5N Na_2CO_3 added gave 37 g. IV, yellow needles, m. 251° (decompn.) (from AcOH). Dissolving 10 g. IV at 80° in 500 ml. H_2O , passing air through the soln. at 80° with efficient stirring, adding 0.2 g. CuSO_4 in 20 ml. 20% NH_4OH , and during 10 min., 25 ml. 2.5N NaOH , cooling after 15 min., and acidifying with 25 ml.

50% H_2SO_4 yielded 7.9 g. VI, m. 243° (decompn.) (from dil. AcOH). Similar results and lower yields (7 g.) were obtained by catalyzing the oxidation with MnSO_4 (1 hr. at 20°), by oxidizing IV with ammoniacal CuSO_4 , and with NaClO and NaOH at 10° . Dissolving 17.5 g. Na salt of III in 150 ml. H_2O , adding 40 ml. 2.5N NaNO_2 , pouring the soln. into 240 ml. cold (-5°) 2.5N HCl over a period of 16 min., and adding the soln. after 10 min. to 17.7 g. I dissolved in 250 ml. H_2O , and 40 ml. 2.5N NaOH and 250 ml. 2.5N Na_2CO_3 added gave 24.5 g. V, m. 240° (decompn.) (from AcOH). Dissolving 2.05 g. 1-phenyl-2-(p-hydroxyphenyl)-4-acetyl- Δ^4 -1,2,3-triazolin-5-one (VII), prepd. according to P. and A. (*C.A.* 48, 4221e), in 100 ml. 94% EtOH , adding 1.08 g. PhNHNH_2 , and boiling the soln. 5 min., gave 3.35 g. phenylhydrazone of VII, m. $171-6^\circ$.

JAROSLAV POKORNY and ZDENEK J. ALIAN
(decompn.) (from EtOH). Dissolving 2.95 g. VII in 100 ml. boiling 95% EtOH, adding 1 g. $\text{NH}_4\text{CSN}(\text{NH}_2)_2$ in 30 ml. H_2O , boiling the mixt., allowing it to stand overnight, boiling again, and dilg. with 300 ml. H_2O gave 2.7 g. thiosemicarbazone of VII, m. 150-53° (decompn.) (from 27% EtOH). Dissolving 1.53 g. isatin (VIII) in 18 ml. 2.5N NaOH and adding at 20° 2.05 g. VII gave 5.8 g. di-Na salt of 1-phenyl-2-(p-hydroxyphenyl)-4-(4-carboxy-2-quinolyl)- Δ^2 -1,2,3-triazolin-5-one (IX), which, dissolved in 50% EtOH and nektified with HCl, yielded IX, orange prisms, m. 270°. Dissolving at 30° 2.3 g. VIII in a soln. of 2 g. NaOH in 10 ml. H_2O , adding 3.4 g. VI, and filtering off the crystals after 48 hrs. gave 5.3 g. of a tri-Na salt of 1-phenyl-2-(p-hydroxy-m-carboxyphenyl)-4-(4-carboxy-2-quinolyl)- Δ^2 -1,2,3-triazolin-5-one (X). This, treated with CO_2 in aq. soln., gave the di-Na salt of X which gave after acidification with HCl X, orange needles, m. 235° (from 50% AcOH).
M. Hudlický

2/2

POSKOCIL, J.; ALLAN, Z.

Aromatic diazo compounds. XVII. Dark-brown direct dyes of high lightfastness.
p. 1782

Vol. 48, no. 12, Dec. 1954
CHEMICKE LISTY
Praha, Czechoslovakia

So: Eastern European Accession Vol. 5, No. 4, 1956

POSKOCIL, J.

POSKOCIL, J. Aromatic diazo and azo compounds. XX. Oxidation
of azo dyes and azo compounds derived from
acetoacetanilide. p. 111. Vol 56, no. 1, Jan. 1956
CHEMICKÉ LISTY, PRAHA. Czechoslovakia.

SOURCE: EAST EUROPEAN ACCESSIONS LIST (EEAL) VOL 6 NO 4 APRIL 1957

POSKOCIL, J.; ALLAN Z.

"Aromatic diazo and azo compounds. XXI. New yellow dyes analogous to chloramine yellow."
In German.

P. 548. Journal on chemistry and biochemistry issued by the, (Czechoslovak Academy of Sciences.) Vol. 22, no. 2, Apr. 1957.

SO: Monthly Index of East European Accession (EEAI) LC, Vol. 7, No. 5 May 1958

CHMATAL, V.; ALLAN, Z. J.; POSKOCIL, J.

Aromatic azo and diazo compounds. XII. Ultraviolet spectra and con-
formation of heterocyclic analogues of biphenyl. Coll Cz chem 26
no.1:67-78 Ja '61. (EAI 10:9)

1. Organisch-technologisches Laboratorium I. Forschungsinstitut für
organische Synthesen, Pardubice-Rybitvi.

(Aromatic compounds) (Azo compounds) (Spectrum, Ultraviolet)
(Biphenyl) (Diazo compounds) (Heterocyclic compounds)

POURCEL J.; ALLAN ...

"Aromatic diazo and azo compounds. " XAIV. Oxidation of azo dyes to diazo compounds.

P. 529. Institute of Applied Physics, (Czechoslovak Academy of Sciences.) Vol. 51, no. 3, Mar. 1957.

SO: Monthly Index of East European Accession (EMAI) LC, Vol. 7, No. 5 May 1958

POSKOČIL, JAROSLAV

Aromatic diazo and azo compounds. XXI. New yellow
 dyes related to Chloramine Yellow, Jaroslav Poskočil 2

and Zdeněk J. Allan (Výzkumný ústav org. syntesy, Pardubice-Rybitví, Czech.). Chem. Listy 50, 1759-97 (1956); cf. C.A. 50, 16801f. Chloramine Yellow analogs containing benzimidazole, benzotriazole, and naphthothiazole rings have been prep'd. and their coloristic properties are given. Dissolving 22.3 g. 2-(p-aminophenyl)-5-methylbenzimidazole in 95 g. 100% H₂SO₄ at 20-30°, adding during 15 min. 50 g. 03% fuming sulfuric acid at 36-45°, and pouring the mixt. after 10 min. into 500 ml. H₂O (65°) gave 21.7 g. of a dye, which (3.03 g.) dissolved in 50 ml. H₂O and 8 ml. 2.5N NaOH, treated at 35-65° with 25 ml. 12% NaOCl, and pptd. with 10 g. NaCl yielded 1.85 g. azo dye (p-RC₆H₄N₂); [R = 6-methyl-5(or 7)-sulfo-2-benzimidazolyl Na salt] (I). Diazotizing 15.2 g. 3,4-O₂N(H₂N)C₆H₃Me and coupling with 20.6 g. aniline- α -methanesulfonic acid in the presence of NaOAc 15 hrs. at -5 to +10°, sepg. the pptd. azo compd., dissolving it in 550 ml. H₂O and 200 ml. 2.5N Na₂CO₃, adding 300 ml. satd. NaCl soln., boiling the mixt. 2.5 hrs., filtering off the red ppt. with suction, washing with 200 ml. H₂O, drying (wt. 22.4 g.), dissolving the dye in 1120 ml. abs. EtOH, treating portionwise with 42.5 g. Zn dust and 335 ml. 20% NH₄OH, boiling 5 hrs., filtering, dilg. the filtrate with 5 l. H₂O, filtering off the cryst. ppt. with suction (16.8 g.), and recrystg. from 94% EtOH gave 2-(p-aminophenyl)-5-methylbenzotriazole (II), m. 163-4°. Dissolving 15 g. II in 65 g. 100% H₂SO₄, adding during 3 min. at 25° 56 g. 03% fuming H₂SO₄, stirring 15 min. at 25°, pouring the mixt. into 300 ml. H₂O, filtering off, and 1/5

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 washing the ppt. gave 21 g. of an acid which was purified by
 way of its NH_4 salt to give 2-(p-aminophenyl)-6-methylbenzo-
 triazole-4-sulfonic acid (III). Dissolving 3.13 g. III in
 60 ml. H_2O and 50 ml. 2.5N NaOH, adding during 12 hrs. at
 40-60° 25 ml. 12% NaOCl, filtering off the ppt. with suc-
 tion, and drying gave 2.8 g. azo dye (IV). Dissolving
 4.40 g. 2-aminonaphthalene-6-sulfonic acid in 40 ml. H_2O
 and 8 ml. 2.5N Na_2CO_3 , adding 25 ml. 20% NaOAc and 3.5 g.
 p-ONC₆H₄CH₃Cl, stirring the mixt. 30 min. at 80°, adding
 a soln. of 6 g. S in 15 g. 31.2% Na_2S and 10 ml. H_2O , re-
 fluxing the mixt. 40 hrs., filtering off the ppt. with suction,
 adding it into 100 ml. H_2O , acidifying the boiling mixt.
 with 10 ml. 15% HCl, filtering off, digesting the ppt. with hot
 dil. NH_4OH , filtering the soln., and allowing it to cool gave
 3 g. of a NH_4 salt which yielded 2-(p-aminophenyl)naphtho-
 [1',2':5,4]thiazole-6'-sulfonic acid (V) on acidification.
 Similarly was prepd. in a low yield, 2-(p-aminophenyl)-
 naphtho[1',2':5,4]thiazole-5',7'-disulfonic acid (VI) from 2-
 aminonaphthalene-5,7-disulfonic acid. VI (1.05 g.) with
 NaOCl gave 0.5 g. of an azo dye (VII). Diazotizing 0.4 g.
 of purified com. 2-(p-aminophenyl)-6-methylbenzothiazole-
 7-sulfonic acid, coupling at 20° (30 hrs.) with 2.5 g. m-
 MeC₆H₄NH₂ (VIII) in AcOH and AcONa soln., filtering off
 the dye at 60°, stirring the ppt. with 200 ml. H_2O and 12.5 g.
 Na 1,3-xylene-4-sulfonate, diazotizing the mixt. with 9 ml.
 2.5N NaNO_2 and 35 ml. 2.5N HCl 3 hrs. at 20°, coupling
 the yellow-brown cryst. ppt. in AcONa medium with 15.9 g.
 38% 2-aminonaphthalene-5,7-disulfonic acid (IX) dissolved
 in 100 ml. H_2O , adding at 85° 160 g. NaCl, cooling, filtering
 off with suction, dissolving the wet paste in 300 ml. H_2O ,
 20 ml. 2.5N Na_2CO_3 , and 20 ml. 2.5N NaOH, adding at 80°
 slowly 20 ml. 12% NaOCl, pptg. the dye with 30 g. NaCl,
 and filtering off with suction at 60° gave 12.7 g. azo dye (X).
 Diazotizing 20 g. 4,2-H₂N(H₂O)₂S₂C₆H₄NHCOCO₂H and

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coupling with 21.8 g. 90% 2-aminonaphthalene-6-sulfonic acid 3 hrs. at 15°, oxidizing the soln. with 50 g. $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$ at 95° in the presence of NH_3 , hydrolyzing the mixt. by boiling 20 min. with 100 ml. 2.5N NaOH, filtering, and pptg. with HCl and NaCl gave a paste contg. 47.1% 2-(p-amino-phenyl)naphtho[1',2':4,5]triazole-6'-sulfonic acid (XI). Diazotizing 44.7 g. XI and coupling with 6.0 g. VIII, diazotizing the product and coupling with 39.5 g. IX, and oxidizing the product with NaOCl or CuSO_4 gave 30.4 g. dye (XII). Diazotizing 9.2 g. (p- $\text{H}_2\text{NC}_6\text{H}_4$)₂ and coupling with 0.4 g. VIII in 24 ml. 2.5N HCl and 200 ml. H_2O , filtering off the dye with suction, stirring with 500 ml. H_2O and 50 ml. 2.5N HCl, adding 20 ml. 2.5N NaNO_2 , stirring 2 hrs. at 20°, removing excess NaNO_2 with sulfamic acid, and adding 70 g. IX in 250 ml. H_2O and 40 ml. 2.5N Na_2CO_3 , then during 20 hrs. 160 ml. 20% NaOAc, 50 ml. $\text{C}_6\text{H}_5\text{N}_3$, and after 30 hrs. 80 ml. 33% HCl pptd. the dye. Filtering off at 20°, dissolving the paste in 400 ml. H_2O and 100 ml. 20% NH_4OH , oxidizing at 90° with an ammoniacal soln. of 40 g. $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$ and 40 ml. 2.5N NaOH, filtering off the yellow ppt. after 2 hrs., stirring it with 400 ml. H_2O and 100 ml. 2.5N HCl, boiling 30 min., adding 40 g. NaCl, filtering off at 80°, washing the ppt. with satd. soln. of NaCl, and acidifying with HCl gave 42 g. 2,5,4-YMe-[2,4-X]([3,4-XRC₆H₄)C₆H₄N₃])C₆H₄ (R = 6',7'-disulfonaphtho[1',2':4,5]triazol-2-yl di-Na salt) (XIII, X = Y = H). Similarly were prepd. XIII (X = MeO, Y = H) and XIII (X = H, Y = MeO). XXII. Determination of the constitution of the Resafix dyes. Ferdinand Mužik and Zdeněk J. Allan. *Ibid.* 1798-807.—The structure has been detd. of 20 direct dyes suitable for fixing on fibers by the action of bivalent Cu and high-molecular polybasic organic

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bases. The dyes (40 g.) were stirred 30 min. with 500 ml. 2.5N HCl, filtered with suction, the wet paste mixed with 200 ml. 36% HCl and a soln. of 90 g. $\text{SnCl}_4 \cdot 2\text{H}_2\text{O}$ in 150 ml. 36% HCl, the mixt. heated at 60-100° until the soln. was decolorized and filtered while hot; the insol. portion washed with 18% HCl (filtrate A); the ppt. stirred with boiling water, and filtered off with suction leaving aminonaphthol-sulfonic acids on the filter, while $(p\text{-H}_2\text{NC}_6\text{H}_4)_2\text{SO}_2$ passed into the filtrate from which it was pptd. with an equal amt. of 36% HCl. The filtrate A usually deposited a ppt. which was filtered off, the filtrate dild. with 700 ml. H_2O , the pptd. 6-anilino-2-amino-1-naphthol-3-sulfonic acid (if present) removed, and the filtrate electrolyzed at 8 v. and 20 amp. using a perforated Cu plate as cathode and carbon as anode, a diaphragm, and 36% HCl as electrolyte. The filtrate after the electrolysis free from Sn was evapd. in *vacuo*, the ppt. filtered off with suction [HCl salts of 2,4-(H_2N) $\text{C}_6\text{H}_3(\text{OH})_2$, 2,5-HO(H_2N) $\text{C}_6\text{H}_3\text{CO}_2\text{H}$, and $p\text{-H}_2\text{NC}_6\text{H}_4\text{CO}_2\text{NHC}_6\text{H}_4\text{NH}_2$], the residue alkalinized and steam distd., or pptd. with Na_2SO_4 , or oxidized with air. The isolated components were tested by a diazotization test with 2-naphthol-3,6-disulfonic acid in the presence of Na_2CO_3 , or with $m\text{-C}_6\text{H}_4(\text{OH})_2$ in the presence of NaOH or Na_2CO_3 , and the absorption spectra investigated. In an oxidative test, a few mg. was dissolved in 15% NH_4OH , the soln. poured on a paper, and color changes produced by air oxidation were observed during 1-5 min. The paper was then treated with 5N AcOH, 2.5N HCl, 2.5N NaOH, 1% $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$, and 63% H_2SO_4 , and the color was observed.

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An extn. test was carried out by extg. the soln. with Et₂O after the addn. of AcONa, NaHCO₃, NaOH and sulfonic acids sepd. from carboxylic acids, phenols and bases. The following dyes were identified: Resofix yellow GL, C₂₀H₁₂N₄O₁₀Si₂OH₂O, Resofix Orange RL, C₂₀H₁₂N₄O₁₀Si₂OH₂O, Resofix Red BL, Cuprofix Red CSBL, C₂₀H₁₂N₄O₁₀Si₂, Resofix Bordeaux 2 RL, C₂₀H₁₂N₄O₁₀Si₂, Resofix Ruby BL, Resofix Violet 2 BL, Resofix blue GLN and 2 GL, Resofix Blue FGL, C₂₀H₁₂N₄O₁₀Si₂, Coprantine pure Blue 4 GLL, C₂₀H₁₂N₄O₁₀Si₂.4H₂O, Resofix Green 3 GL, Coprantine Green 5 GLL, Resofix Grey 2 GL, Resofix Brown RL (I), C₂₀H₁₂N₄O₁₀Si₂.H₂SO₄, Resofix Brown BL, Resofix Brown 3BL, Resofix Marine Blue BL, and Resofix Marine Blue SL, C₂₀H₁₂N₄O₁₀Si₂.H₂O. Resofix Marine Blue GL was composed of Resofix Blue GLN, I, and Resofix Violet 2BL in the ratio 82:10:8.

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Aromatic diazo and azo compounds. XXXI. Decomposition of diazo compounds derived from azo dyes possessing Cleve acid as the end member. Karel Štítný, Ferdinand Mušák, Zdeněk J. Allan, and Juroslav Poskocil (Výzk. ústav org. synth., Pardubice-Kybitov, Czechoslov.). *Chem. listy* 52, 1301-8 (1958); cf. *C.A.* 52, 17215c. Coprantine Brown RL (C I B A) (cf. *C.A.* 49, 16138i), prep'd. (cf. *C.A.* 49, 7855h) from tetrazotized benzidine (I), salicylic acid (II), Cleve acid (III), diazotization, and 8-quinolinol (IV) (1/2 as much as the other compds.), was shown by paper chromatography on Whatman No. 1 and elution with 15% aq. NH₃, pyridine, and iso-AmOH mixt. (in vol. ratio 1:1:1) to contain 15% of the expected trisazo dye, violet spot, *R_f* 0.4, 40% of the 4,4'-[p-(3,4-HO₂C(HO)C₆H₃N:N)-C₆H₄]C₆H₃N:N] deriv. of 1,1'-binaphthyl-6,8'-disulfonic acid (V); yellowish brown spot, *R_f* 0.2; 10% of the disazo dye from 1 mole tetrazotized I and 2 moles II, yellow spot, *R_f* 0.7; and 5% of the disazo dye from 1 mole tetrazotized I, 1 mole II, and 1 mole III (the NH₂ group of the latter is converted to OH), red spot, *R_f* 0.6. A weakly acid (to Congo) soln. (300 ml.) of 0.1 mole diazotized 1,2,5-H₃NC₆H₃(SO₃H)₂ was added at 5-10° to a weakly alk. (to Brilliant Yellow) soln. of 0.1 mole III, 160 ml. H₂O, and 40 ml. 2.5*N* Na₂CO₃. Filtering off (after 2 hrs.) the pptd. azo dye, dissolving the paste (57 g.) in 300 ml. H₂O and 30 ml. 2.5*N* NaOH, filtering the soln., treating with 40 ml. 2.5*N* NaNO₂, pouring the mixt. into 160 ml. 2.5*N* HCl and excess ice, adding (after 15 min.) NaCl, filtering off, and washing with 10% aq. NaCl gave prisms of the diazo comp'd. RN₂Cl, *R* = 4-[2,5-(NaO₃S)₂C₆H₃N:N]-6-(NaO₃S)C₆H₄, throughout this abstr. The mixt. of 12.6 g. wet RN₂Cl in 50 ml. ice

and H₂O decomp'd. by addn. of 20 ml. 2.5*N* Na₂CO₃ at 0°, 15°, and 100°, resp., yielded (as shown by paper chromatography on Whatman No. 1 and elution with 1*N* HCl) 65, 66, 85% RR (*R_f* 1.0); 15, 10, 5% R₂NH (*R_f* 0.8); 15, 10, 7% RNH₂ (*R_f* 0.8); <1, <1, <1% ROH (*R_f* 0.4); 4, 4, 1% unidentified comp'd. (*R_f* 0.3); and 0, 10, 0% trisazo dye, the 4-[2,5-(NaO₃S)₂C₆H₃N:N]-2-[RN:N]-deriv. of 1,6-HOC₁₀H₇SO₃Na (VI) (*R_f* 0.1). Authentic samples of ROH and VI were prep'd. by conventional methods. RR was isolated presumably in the form of C₂₂H₁₇O₄Na₃SO₃·12H₂O. An aq. soln. of RR was acidified with aq. HCl, reduced at the boil with SnCl₂, and chromatographed on paper in 1*N* HCl. Spots were detected by diazotization in an atn. of nitrous fumes and by spray with a soln. of 2,3,6-HOC₃H₄(SO₃Na)₃ and Na₂CO₃; the orange spot (*R_f* 0.96) was identified as 1,2,5-H₃NC₆H₃(SO₃Na)₂ (comparison with an authentic specimen); the next violet spot is presumably due to the 4,4'-diamino-1,1'-binaphthyl-6,8'-disulfonic acid (VII). Instead of authentic VII the 4,4'-diamino-1,1'-binaphthyl-7,7'-disulfonic acid (VIII) was prep'd. (by the method of Bogoslovskii, cf. *C.A.* 41, 104i) which gave spot of the same *R_f* (0.87) and of similar color reactions as VII. Aq. soln. of 11.15 g. III and 20 ml. 2.5*N* Na₂CO₃ was dild. to 600 ml. with H₂O; adding 20 ml. 2.5*N* NaNO₂, pouring the mixt. into 100 ml. 2.5*N* HCl and ice, pouring the suspension formed with vigorous stirring into a mixt. prep'd. from 12.5 g. cryst. CuSO₄ in 50 ml. H₂O, 20 ml. 23% aq. NH₃, and an aq. soln. of 3.5 g. NH₄OH.HCl, pptg. the product with NaCl, filtering off, dissolving the ppt. in a large vol. of very dil. NaOH, treating the soln. with C, cooling, filtering off the orange glistening plates of the azo comp'd. (3.4 g.), dissolving in aq. HCl, and refluxing with SnCl₂ gave sparingly sol., hairlike needles of VIII.

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✓ Carbazole derivatives. IV. Preparation of 3,6-dichloro-1,8-diaminocarbazole. Ferdinand Mikš, Zdeněk J. Aljan, Jaroslav Poskočil, and J. Podstava (Výzkumný ústav org. syntézy, Píseňice-Rybitví, Czech.). Chem. listy 51, 854-5 (1957); cf. C.A. 51, 3559g. Chlorination of carbazole (I) gave 3,6-dichlorocarbazole (II) whose nitration yielded 3,6-dichloro-1,8-dinitrocarbazole (III). Hydrogenation of III in dil. soln. with H over Raney Ni gave 3,6-dichloro-1,8-diaminocarbazole (IV), whereas in concd. soln., 3,3',6,6'-tetrachloro-8,8'-dinitro-1,1'-azocarbazole (V) was formed. Treating 400 g. 97% I in 4 l. C₂HCl₃ with 350 g. Cl at 10° 3 hrs., heating the mixt. toward the end of the reaction to 60°, cooling again to 10°, and passing in an addnl. 40 g. Cl, filtering the mixt. with suction, and washing the crystals with 300 ml. C₂HCl₃ yielded 56.4% II, m. 103°. Further chlorination of the mother liquors gave 11.9% 1,3,6,8-tetrachlorocarbazole. Stirring 141.6 g. II with 480 g. AcOH and 340 ml. Ac₂O, treating the mixt. with 72 ml. 68.7% HNO₃ during 30 min., 1st at 1-7°, later on at 60°, raising the temp. to 75° and finally to 110° 10 min., filtering the hot mixt., and washing the crystals with 120 ml. boiling AcOH gave 84% III. Hydrogenation of 10 g. III in 300 ml. 94% EtOH over 1 g. Raney Ni at 50 atm. initial pressure at 97°, filtering the mixt. at 50°, and pptg. with H₂O gave 62% IV, decomp. 205° (from 43% EtOH), R, 0.9 (Whatman 4, 2:1 15% NH₄OH-C₂H₅N). Treating 30 g. III in 300 ml. 94% EtOH with H and 1 g. Raney Ni at 50°, filtering at 50°, boiling the ppt. with EtOH, digesting twice with hot PhNO₂, and crystg. from PhNO₂ gave V (no m.p.). M. Hudlický

POSKOČIL, J.

Cilant ✓ Aromatic diazo compounds. XX. Oxidation of azo dyes
prepared from acetanacetanilide. J. Poskočil und Z. J.
Allan. Collection Czech. Chem. Commun. 21, 620-6 (1969)
(in German). See C.A. 50, 13092d. B. I. C.

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Aromatic diazo compounds. XIII. Oxidation of azo dyes with air. Jaroslav Poskocil and Zdeněk J. Altmann. *Český ústav org. syntesy, Pardubice-Rybitví, Czech. J. Chem. Listy* 47, 1801-10 (1953); *Č. 1418; C.A.* 47, 11185g.

—Azo dyes prepd. by coupling 1-diazo-2-naphthol-4-sulfonic acid (I) with various components were oxidized with air in alk. solns. The dyes having no NH_2 group in the ortho position to the N_2 group are split to a diazo compd. and a quinone. Contrary to the heretofore described instances, the cleavage occurs on the opposite side of the azo group. Azo dyes prepd. from $m\text{-NH}_2\text{C}_6\text{H}_4\text{NH}_2$ (II) are oxidized to the corresponding triazoles, those prepd. by coupling with $\text{AcCH}_2\text{CONHPh}$ (III) give 1,2,3,5-triazolones. The oxidation was carried out by dispersing alk. solns. of the dyes in air, after the addn. of catalytic amts. of $\text{MnSO}_4 \cdot 4\text{H}_2\text{O}$ or $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$ which increase the rate of oxidation. The air was passed into a 1.5 l. flask contg. 0.5 l. of the soln. and fitted with a half-immersed stirrer (740 revolutions/min.). The azo dye from I and 2-naphthol (0.01 mole), dissolved in 450 ml. H_2O and 50 ml. 2.5N NaOH and oxidized at 20° with air 5.5 hrs. (foaming was reduced by adding Et_2O soln. of linseed oil), gave on acidification with 35 ml. 5N HCl 50.2% 1-diazo-2-naphthol, and by paper chromatography 2-hydroxy-1,4-naphthoquinone (IV). With the addn. of 0.05 g. $\text{MnSO}_4 \cdot 4\text{H}_2\text{O}$, the yield of 1-diazonaphthol was 70-72%. The azo dye from I and 1-naphthol gave 73.5% IV and 2-diazo-1-naphthol. Diazonium component, coupling component of the dye, and oxidation products are given: I, $m\text{-HOC}_6\text{H}_4\text{OH}$, IV (m. 101°), 4-diazoresorcinol; I, 1-phenyl-3-methyl-5-pyrazolone, IV, 4-diazo-1-phenyl-3-methyl-5-pyrazolone; I, $m\text{-HOC}_6\text{H}_4\text{NH}_2$, IV, 5-amino-2-diazophenol; I, II, 5-amino-2-(2-hydroxy-4-sulfo-1-naphthyl)benzotriazole; α -diazophenol, II, 5-amino-2-(2-hydroxyphenyl)benzotriazole, m. 212° (from MeOH); p -diazophenol, II, 5-amino-2-(4-hydroxyphenyl)benzotriazole, m. 249° (from EtOH); I, III, monohydrate of Na salt of 1-phenyl-2-(2-hydroxy-4-sulfo-1-naphthyl)-4-acetyl- Δ^2 -1,2,3-triazolin-5-one; α -diazophenol, III, 1-phenyl-2-(2-hydroxyphenyl)-4-acetyl- Δ^2 -1,2,3-triazolin-5-one, m. $170-89^\circ$ (decompn.); p -diazophenol, III, 1-phenyl-2-(4-hydroxyphenyl)-4-acetyl- Δ^2 -1,2,3-triazolin-5-one, m. $195-216^\circ$ (decompn.) (from H_2O). The dye from III and diazoniumbenzoic acid is not changed by oxidation.

MF 11-5-54 M. Hudlický

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Aromatic diazo compounds. XVII. Dark-brown direct
dyes of superior light-fastness. Jaroslav Poskočil and
Zdeněk J. Allan. *Collection Czechoslovak Chem. Commun.*
20, 689-14 (1955) (in German). XVIII. New red and vio-
let direct dyes for cotton derived from benzotriazole.
Ferdinand Mužik and Zdeněk J. Allan. *Ibid.* 615-22.
Sep. C.A. 49, 7855a. E. J. C.

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Aromatic diazo compounds. XVII. Dark-brown direct dyes of superior light-fastness. Jaroslav Poskočil and Zdeněk I. Allan (Výzkumný ústav org. syntézy, Píseňice-Rybitví, Czech.). Chem. Listy 48, 1782-6 (1954); cf. C.A. 48, 749f. — In order to prep. light-fast dark-brown dyes suitable for dyeing cellulose fibers, polyazo dyes of the type of Sirius Brown RT (F.I.T. Microfilm FD 2537/46, II, 598 (1946)) were prepd. These dyes are composed of benzidine (I), naphthoic acid (II), 1-amino-6-naphthalenesulfonic acid (III), 1-hydroxy-2-naphthoic acid (IV), and 8-quinolinol (V). The light-fastness of the prepd. dyes was increased by blocking the free OH groups by metallization with 2% Cu tartrate, or by removing the free NH₂ groups by diazotization and reduction with HCO₂Na. Some of the dyes prepd. possessed superior light-fastness (5-6) and wash-fastness. I-HCl (12.85 g.) dissolved in 100 ml. H₂O was treated with 50 ml. 2.5N HCl, the mixt. cooled to 0°, treated with 40 ml. 2.5N NaNO₂ during 10 min., allowed to stand 1 hr., neutralized to Congo red with 10 ml. 2.5N Na₂CO₃, treated at 0° with 7.6 g. II dissolved in 80 ml. H₂O and 22 ml.

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2.5N NaOH, the product treated with 27.5 ml. 2.5N NaOH at 3-5° for 20 min. (the mixt. was alk. to phenolphthalein), stirred until the tetrazo compl. disappeared, treated at 10-15° with 11.75 g. 95% III, dissolved in 120 ml. H₂O and 20 ml. 2.5N Na₂CO₃, stirred overnight, and diazotized with 13 ml. 50% H₂SO₄ and 25 ml. 2.5N NaNO₂ at 10-18° to give a diazotized disazo compd., II ← I → III, (VI). Treating VI with 250 ml. ice-water and pouring into a soln. of 7.25 g. V in 200 ml. H₂O and 20 ml. 2.5N NaOH cooled to 0°, adding 50 ml. 2.5N Na₂CO₃, stirring overnight, heating to 60°, and pptg. with 60 g. NaCl yielded 43.3 g. of a dye, II ← I → III → V. Stirring VI with 250 ml. H₂O, pouring into 3.63 g. V in 100 ml. H₂O and 10 ml. 2.5N NaOH at 3°, adding during 30 min. 30 ml. 2.5N Na₂CO₃, and treating the mixt. as above gave 44.25 g. of a dye, II ← I → III → V ← III ← I → II. Similarly were prepd. the dyes II ← I → III → IV and IV ← I → III → IV. Stirring VI with 250 ml. H₂O and 250 g. ice, adding at 4° to the suspension 11.75 g. 95% III dissolved in 80 ml. H₂O and 40 ml. 2.5N Na₂CO₃, during 1 hr., 10 more ml. 2.5N Na₂CO₃, stirring overnight, pptg. the dye with 50 g. NaCl, stirring the wet paste with 400 ml. H₂O, acidifying the mixt. with 50 ml. 2.5N HCl, and diazotizing at 10-12° with 20

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ml. 2.5N NaNO₂ gave 1250 ml. soln. of diazo compd. (VII). When VII was added to 3.63 g. V dissolved in 100 ml. H₂O and 10 ml. 2.5N HCl at 3°, treated with 60 ml. 2.5N Na₂CO₃, and pptd. with 160 g. NaCl there was obtained 58 g. of the dye II ← I → III → III → V. Heating 1250 ml. of a soln. of VII 1 hr. at 60-65° with 20 g. HCO₂Na, and pptg. with 60 g. NaCl gave 52.75 g. II ← I → III → deaminized-III. The same dye was obtained by substituting AcONa for HCO₂Na. In addn., the dye V ← III ← I → III → V was prepd. XVIII. New red and violet direct dyes for cotton derived from benzotriazole. Ferdinand Mužik and Zdeněk J. Allan. *Ibid.*, 1787-93. Direct red dyes contg. a benzotriazole ring were prepd. either from derivs. of benzotriazole, or by closing a triazole ring of amluo azo compds. by addnl. oxidation with (AcO)₂Cu. Some of the dyes, especially those prepd. by the latter method, had light fastness 4-8. Coupling 5-diazo-2-hydroxybenzoic acid (I) with *m*-C₆H₄(NH₂)₂ (Ia) gave a monoazo dye. The latter (13.6 g.), dissolved in 100 ml. 2.5N NaOH, oxidized with air after adding 1 g. MnSO₄·4H₂O and 0.8 g. CuSO₄·5H₂O at 85-90° for 2.5 hrs., and dild. with 300 ml. boiling H₂O, yielded by pptn. with HCl 8.4 g. 2-(4-hydroxy-3-carboxyphenyl)-5-aminobenzotriazole (II). Coupling diazo-ized II with 1,3-bis(5-hydroxy-7-sulfo-2-naphthyl)urea

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gave a bright-red dye, with 2-naphthol-3,0-disulfonic acid (III) a red dye, λ 538, 501.5 $m\mu$, 1,2,4- $C_6H_3(OMe)(NH_2)_2$ (24 g.) dissolved in 300 ml. warm water and 20 ml. 2.5N HCl was treated during 1 hr. at 5° with 0.1 mole I, the mixt. made alk. with Na_2CO_3 to Brilliant Yellow, stirred overnight, treated with 100 ml. 2.5N Na_2CO_3 , and heated to 75° to give 24 g. of a dye. The oxidation of the latter under the conditions described, or with $CuSO_4$ in aq. ammoniacal and pyridine soln. at 70°, yielded 2-(4-hydroxy-3-carboxyphenyl)-5-amino-6-methoxybenzotriazole (IV) sulfate (from 80% EtOH). Coupling diazotized IV with III gave a bluish red dye, λ 574, 536.5 $m\mu$. Refluxing 198.1 g. 64.0% *p*-phenylenediaminesulfonic acid with 253 g. $(CO_2H)_2 \cdot 2H_2O$ in 500 ml. H_2O 8 hrs. and washing the filtered product with 60 ml. H_2O gave 193 g. 77.8% 4-amino-2-sulfonoxanilic acid (V), yield 75.4%, R_f 0.74 in *N* HCl. Elimination of the free NH_2 group of V by diazotization and heating with HCO_2Na at 60° gave orthanilic acid, R_f 0.75 in 16% NH_4 . Diazotizing V and coupling with Ia gave a monoazo dye which was boiled 30 min. with $CuSO_4$ in aq. C_6H_5N , treated at 70° with 4% Na_2CO_3 , and pptd. with NaCl to give a triazole deriv. which coupled with a second mol. of diazotized V, oxidized, and hydrolyzed with dil. NaOH yielded 2,7-bis(4-amino-3-sulfohenyl)benzo-[1,3,4]triazole, slightly sol. in H_2O . Diazotizing a soln. of 0.1 mole Na 2-amino-5-naphthol-7-sulfonate in 70 ml. H_2O and 200 ml. 40% soln. of Na 1,3-xylene-4-sulfonate at 20° with 30 ml. 10N HCl and 7.5 g. $NaNO_2$ in 20 ml. H_2O , removing the excess HNO_2 with sulfamic acid, adding a soln. of Na 2-naphthylamine-5-sulfonate and 40 ml. 20% NaOAc, after 2 hrs. an addnl. 90 ml. 20% NaOAc, stirring the mixt. overnight, and pptg. with 110 g. NaCl gave an azo dye. The oxidation of the latter with 60 g. $CuSO_4$ in 150 ml. H_2O , 100 ml. 16% NH_4 , and 60 ml. 2.5N NaOH at 70° yielded 23.5 g. 68% 2-(5-hydroxy-7-sulfo-2-naphthyl)-

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2H-naphtho[1,2]triazole-6-sulfonic acid (VI). Coupling VI with 4-diazo-1,1'-azobenzene-3,4'-disulfonic acid gave a bluish red dye, coupling with diazotized (dehydrothiitol) dinedisulfonic acid at 45° in NaOAc gave a bright-red dye. Dissolving 4.88 g. 3,3'-dimethoxybenzidine (VII) in 110 ml. H₂O and 4 ml. 35% HCl at 40°, diazotizing the soln. at 2° with 4 ml. 35% HCl and 16 ml. 2.5N NaNO₂, removing excess HNO₂, adding 9.8 g. 80% 2-naphthylamine-3,6-disulfonic acid in 50 ml. H₂O, then Na₂CO₃ to make the soln. slightly acid to Congo red, adding 3 ml. 20% NaOAc and during 5 hrs. gradually 10 ml. 2.5N Na₂CO₃, stirring overnight, adding at 2° a soln. of 8 g. 94% 2-anilino-5-naphthol-7-sulfonic acid in 200 ml. H₂O and an equiv. amt. Na₂CO₃ plus 10 g. Na₂CO₃, pptg. the dye with 68 g. NaCl, and oxidizing the wet paste with 12.1 g. CuSO₄·6H₂O in 28 ml. H₂O and with 8.3 g. Cu(OAc)₂ gave 36.9 g. of a red-violet dye. Similarly were prepd. orange-red dyes by coupling diazotized VII, first with various naphthylaminesulfonic and -disulfonic acids and then with 1-(4-sulphophenyl)-3-methyl-5-pyrazolone. The following naphthylaminesulfonic acids were used: 2-naphthylamine-3,6-disulfonic, 2-naphthylamine-5,7-disulfonic, 1-naphthylamine-4-sulfonic, and 2-naphthylamine-6-sulfonic acid. Adding at 0° 9.6 g. 77% 1-naphthol-3,8-disulfonic acid dissolved in 100 ml. H₂O and an equiv. amt. of Na₂CO₃ plus 5.6 g. more Na₂CO₃ to diazotized VII prepd. as above, stirring 15 min. at 0°, adding HCl to the reaction of Brilliant Yellow, then adding 5.2 g. 80% 2-naphthylamine-6-sulfonic acid dissolved in 200 ml. H₂O and equiv. amt. Na₂CO₃, stirring the mixt. at 20° overnight, pptg. at 95° with 26.4 g. NaCl, and coppering the dye as above yielded 64.2 g. of a red-violet dye. Similarly was prepd. a bright-red dye from benzidine, 2-naphthol-6,8-disulfonic acid, and 2-naphthylamine-6-sulfonic acid. A red-violet dye was prepd. from VII, 2-naphthol-3,6-disulfonic acid, and 2-naphthylamine-6-sulfonic acid.

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Poskachev, A. A., Engineer

TITLE: Some Systems of the Infrared Pyrometry²¹ of the Spectral
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PERIODICAL: Priborostroyeniye, 1960, No. 7, pp. 28-29

TEXT: The systems described here, in which photodiodes are used, are based on the scheme suggested by D. Ya. Svet (Fig. 1). Pulsating radiation fluxes are focused onto the photodiode by means of an optical system, and the pulsating diode current is amplified. These pulses are fed into a follow-up system which secures a certain ratio between the individual pulsation amplitudes of the amplified pulses by means of an electric motor adjusting a slide wire. Fig. 2 shows an improved scheme with which the sensitivity of this pyrometer could be considerably improved by means of a synchronous signal detection. The optical system is the same as above. Next, the authors give a detailed description of the highly sensitive pyrometer shown in Fig. 3. It consists of three main parts: the optical part with the photodiode, ✓
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782. ANALYSIS OF THE HUMORAL BASIS OF THE PERIODIC CHANGE IN THE PHASES OF DEPRESSION AND STIMULATION OF THE HEART DURING PROLONGED STIMULATION OF THE VAGUS NERVE (Russian text) - Poskonova M. A. - BYULL. EKSPER. BIOL. I MED. 1957, 44/7 (12-13)

The isolated frog's heart was stimulated via the vagus nerve. This led to periodic change in the phases of inhibition and excitation. The perfusate from the heart during the period of inhibition was transferred to the solution perfused into another heart. This led to weakening of the contraction of the heart. The solution taken during the period of excitation increased the strength of the contraction of the other heart. Prostigmine enhanced the reaction of the recipient heart to the solution taken during the period of inhibition, while atropine prevented this reaction. Neither substance modified the effect of the solution taken during the period of recovery. This latter effect could be prevented by the adrenolytic drug dibenamine. It is concluded that during the period of inhibition the heart accumulates acetylcholine and during excitation, an adrenaline-like substance. (S)

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